

Title (en)
System for and method of removing NOx from exhaust gases

Title (de)
System und Verfahren zur Entfernung von NOx aus Abgasen

Title (fr)
Système et procédé d'élimination de NOx dans des gaz d'échappement

Publication
EP 0820799 A3 19980812 (EN)

Application
EP 97305345 A 19970717

Priority
JP 19631996 A 19960725

Abstract (en)
[origin: EP0820799A2] An NOx removal system has a combustion apparatus (64) for applying energy to a load based on a predetermined combustion control process, an NOx remover (68) for reacting NOx emitted from the combustion apparatus (64) with NH3 to produce N2 and H2O, an NH3 and/or urea introducing apparatus (72) connected upstream of the NOx remover (68), for introducing NH3 and/or urea into a gas passage (66) extending from the combustion apparatus (64) to the NOx remover (68), and an NOx sensor (70) connected downstream of the NOx remover (68), for generating a detected signal based on NH3 and NOx contained in a gas discharged from the NOx remover (68). A controller (72) controls a rate at which NH3 and/or urea is introduced into the gas passage (66) by the NH3 and/or urea introducing apparatus (72) while repeatedly increasing and reducing the rate, in response to the detected signal generated by the NOx sensor (70). The NOx removal system, which employs NH3 and/or urea as a reducing agent, is capable of accurately controlling the rate at which NH3 and/or urea is introduced into the gas passage (66) through a simple arrangement, and minimizing the discharge of NH3 and NOx. <IMAGE>

IPC 1-7
B01D 53/50; **B01D 53/92**

IPC 8 full level
B01D 53/30 (2006.01); **B01D 53/56** (2006.01); **B01D 53/74** (2006.01); **B01D 53/86** (2006.01); **B01D 53/94** (2006.01); **F01N 3/20** (2006.01); **F01N 9/00** (2006.01)

CPC (source: EP US)
B01D 53/56 (2013.01 - EP US); **B01D 53/8696** (2013.01 - EP US); **B01D 53/9495** (2013.01 - EP US); **F01N 3/206** (2013.01 - EP US); **B01D 2251/2062** (2013.01 - EP US); **B01D 2251/2067** (2013.01 - EP US); **F01N 2610/02** (2013.01 - EP US); **Y02T 10/12** (2013.01 - EP US); **Y10S 423/05** (2013.01 - EP US)

Citation (search report)

- [XAY] EP 0653237 A1 19950517 - SIEMENS AG [DE]
- [YA] EP 0263183 A1 19880413 - MITSUBISHI HEAVY IND LTD [JP]
- [YA] DE 3606535 A1 19870903 - KLOECKNER HUMBOLDT DEUTZ AG [DE]
- [A] EP 0239106 A2 19870930 - KERNFORSCHUNGSGEZ. KARLSRUHE [DE]
- [A] WO 9415206 A1 19940707 - BOSCH GMBH ROBERT [DE], et al
- [AP] EP 0731351 A2 19960911 - NGK INSULATORS LTD [JP]
- [A] EP 0257842 A2 19880302 - NGK INSULATORS LTD [JP]
- [A] EP 0678740 A1 19951025 - NGK INSULATORS LTD [JP]
- [AP] PATENT ABSTRACTS OF JAPAN vol. 097, no. 006 30 June 1997 (1997-06-30)

Cited by
US7575931B2; WO2004000443A1; EP1077077A3; EP1640578A1; EP0994346A3; EA036174B1; GB2382658A; AU2003247570B2; EP2388450A4; CN106110852A; CN108150254A; GB2382657A; DE19814386A1; DE19814386C2; EP2080873A1; FR2926592A1; US7231290B2; US7428809B2; US8617473B2; US8359841B2; WO2012168758A1; US8323574B2; KR101047191B1; US8191413B2; DE102008005640A1; WO2009092429A1

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
EP 0820799 A2 19980128; **EP 0820799 A3 19980812**; **EP 0820799 B1 20030924**; DE 69725070 D1 20031030; DE 69725070 T2 20040708; JP 4087914 B2 20080521; JP H1033948 A 19980210; US 6017503 A 20000125; US 6455009 B1 20020924

DOCDB simple family (application)
EP 97305345 A 19970717; DE 69725070 T 19970717; JP 19631996 A 19960725; US 31883599 A 19990526; US 88950797 A 19970708